

### AMENDMENTS TO THE CLAIMS

**Please amend Claims 24, 26-28, 37, 45, 49-52, and 54-57 as follows.**

**Please add new Claims 58-61 as follows.**

1-23 (Cancelled)

24. (Currently amended) A contact node comprising: at least two metallized contacts coupled with first and second conductive paths arranged on surfaces of under-lying and upper-lying connection layers, respectively, made on the base of a dielectric material and mutually aligned and interconnected electrically and mechanically by conductive binding material, wherein it is made in the form of joint between a contact made in the form of metallized contact pad coupled with the second conductive paths on the surface of the under-lying connection layer, and a respective contact jointed with said contact pad via conductive binding material and made in the form of a metallized hole in-anthrough the upper-lying connection layer, the metallized hole having an inner surface thereof connected to the first conductive path, the lower edge of the metallized hole being faced to the metallized contact pad on the surface of the ~~underlying~~under-lying connection layer, ~~and the upper edge of said hole being coupled with the conductive paths on the upper surface of the upper-lying connection layer.~~

25. (Previously presented) The contact node according to Claim 24, wherein the metallized hole is made in the form of cylinder.

26. (Currently amended) The contact node according to Claim 25, wherein the upper edge of the metallized hole coupled with the first conductive paths on the surface of the upper-lying connection layer is made with a metallized rim along the periphery of the edge.

27. (Currently amended) The contact node according to Claim 24, wherein the metallized hole is made in the form of a truncated cone, the lesser base of the truncated cones being faced to the contact pad on the surface of the ~~underlying~~under-lying connection layer, and the greater base of the truncated cones being coupled with the first conductive paths on the upper surface of the upper-lying connection layer.

28. (Currently amended) The contact node according to Claim 27, wherein the upper edge of the metallized hole coupled with the first conductive paths on the surface of the upper-lying connection layer is made with a metallized rim along the periphery of the edge.
29. (Previously presented) The contact node according to Claim 27, wherein an integrated circuit chip oriented by its metallized contact pads to corresponding metallized holes in the upper-lying connection layer is used as a connection layer with metallized contact pads respective to the metallized holes in the upper-lying connection layer.
30. (Previously presented) The contact node according to Claim 24, wherein the metallized contact pad is made flat.
31. (Previously presented) The contact node according to Claim 24, wherein a protrusion interacting with the respective metallized hole is formed in the center of the metallized contact pad respective to the metallized hole.
32. (Previously presented) The contact node according to Claim 31, wherein the protrusion is made in the form of cylinder.
33. (Previously presented) The contact node according to Claim 31, wherein the protrusion is made in the form of cone.
34. (Previously presented) The contact node according to Claim 31, wherein the protrusion is made in the form of sphere.
35. (Previously presented) The contact node according to Claim 31, wherein the protrusion is made of a conductive material.
36. (Previously presented) The contact node according to Claim 31, wherein the protrusion is made of solder.
37. (Currently amended) The contact node according to Claim 24, wherein a contact made in the form of a rod fixed in the ~~underlying~~under-lying connection layer orthogonally to its surface is inserted into the metallized hole.
38. (Previously presented) The contact node according to Claim 37, wherein the rod has the form of cylinder.
39. (Previously presented) The contact node according to Claim 37, wherein the rod has the form of polygon.

40. (Previously presented) The contact node according to Claim 37, wherein grooves are made along the generatrix of the rod.
41. (Previously presented) The contact node according to Claim 40, wherein the grooves are made interrupted.
42. (Previously presented) The contact node according to Claim 37, wherein the rod is made from a conductive material.
43. (Previously presented) The contact node according to Claim 37, wherein the rod is made from an electrical insulating material with a conductive coating.
44. (Previously presented) The contact node according to Claim 28, wherein the diameter D of the greater base of the truncated cone, the width h of the metallized rim, the diameter d of the lesser base of the truncated cone, the thickness t of the dielectric material of the connection layer and the minimal width L of the respective metallized contact pad on the underlying connection layer are coupled with the following relationship:

$$L \geq D + 2h = d + 2t + 2h$$

45. (Currently amended) The contact node according to Claim 37, wherein the upper edge of the metallized hole coupled with the first conductive paths and a lower edge of the metallized hole are made with metallized rims on the surfaces of the under-lying connection layer along the periphery of the edges.
46. (Previously presented) The contact node according to Claim 26, wherein the upper and lower edges of the metallized hole have a facet.
47. (Previously presented) A contact node, comprising:
- a first connection layer having a conductive path on a surface thereof;
  - a second connection layer deposited adjacent to the first connection layer having a conductive path on a surface thereof; and
  - a metallized hole provided through the first connection layer and having an inner surface thereof connected to the conductive path of the first connection layer; and
  - a metallized contact pad provided on a surface of the second connection layer and connected with the conductive path of the second connection layer, wherein a conductive

binding material is deposited in the metallized hole to be in contact with the inner surface of the metallized hole and the metallized contact pad so as to form connection between the first and second connection layers.

48. (Previously presented) The contact node according to Claim 47, wherein the metallized hole is in a form of a cylinder.

49. (Currently amended) The contact node according to Claim 48, wherein the metallized contact pad has a ~~metallized~~metallized protrusion in a form of a sphere in the conductive binding material.

50. (Currently amended) The contact node according to Claim 48, wherein the metallized contact pad has a ~~metallized~~metallized protrusion in a form of a cone in the conductive binding material.

51. (Currently amended) The contact node according to Claim 48, wherein the metallized contact pad has a ~~metallized~~metallized protrusion in a form of a cylinder in the conductive binding material.

52. (Currently amended) The contact node according to Claim 48, wherein the metallized contact pad has a ~~metallized~~metallized protrusion in a form of a rod in the conductive binding material.

53. (Previously presented) The contact node according to Claim 47, wherein the metallized hole is in a form of a truncated cone.

54. (Currently amended) The contact node according to Claim 53, wherein the metallized contact pad has a ~~metallized~~metallized protrusion in a form of a sphere in the conductive binding material.

55. (Currently amended) The contact node according to Claim 53, wherein the metallized contact pad has a ~~metallized~~metallized protrusion in a form of a cone in the conductive binding material.

56. (Currently amended) The contact node according to Claim 53, wherein the metallized contact pad has a ~~metallized~~metallized protrusion in a form of a cylinder in the conductive binding material.

**Appl. No.** : **09/830,635**  
**Filed** : **August 2, 2001**

57. (Currently amended) The contact node according to Claim 53, wherein the metallized contact pad has a ~~mortalized~~metallized protrusion in a form of a rod in the conductive binding material.

58. (NEW) The contact node according to Claim 24, wherein there are no solder bumps formed between the under-lying connection layer and the upper-lying connection layer.

59. (NEW) The contact node according to Claim 24, wherein the contact node is for use with unpackaged IC chips for multichip modules.

60. (NEW) The contact node according to Claim 47, wherein there are no solder bumps formed between the first and second connection layers.

61. (NEW) The contact node according to Claim 47, wherein the contact node is for use with unpackaged IC chips for multichip modules.